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## MEMORANDUM

NRO Review Completed.

Date

MAR 24 1972

To: R. W. Buchheim

Date: 10/19/59 K-114

From: A. H. Katz

Memo No.: M-6290

Subject: COMMENTS ON WM-2232: REORIENTATION OR REJUVENATION OF ARPA SPACE PROGRAM

Copies to: J. Goldsen, L. Henderson, Jr., J. Hult, L. Rumph

This particular memorandum and the background material leading up to it (Godel's discussion with Henderson) indicate precisely what is wrong with our space program. The feeling presented by Godel is strangely (or perhaps not strangely at all) reminiscent of the shameful and deplorable hysteria that followed the second Russian Revolution of October 4, 1957. This period, you will all remember, was marked by efforts like that of Teller, who headed a committee to produce a fast, flashy response to Soviet Sputnik.

We learned very fast that the Soviet Sputnik was for real; that it was only the beginning of a long line of serious and major scientific, technical and military accomplishments. We should have learned once and for all that flashy responses designed to satisfy (or whet) political appetites, without providing deep and lasting nourishment, are not at all what the doctor ordered. Yet the tone of this particular memorandum indicates that we're re-living those sad days.

Godel, I'm reasonably sure, is not at all an RAD man and has little or no technical background, except what he may have picked up by osmosis from Congressional hearings, listening to Project proposals, technical briefings and the like, or conversely, writing all the foregoing. He, and others like him, fail utterly and completely to recognize the simple and dominant fact of technical life: it takes a certain length of time to finish anything, and life cannot be made up of a continuous dropping and picking up of projects on a high-speed cycling basis, a cycle which is independent of and much shorter than the natural cycle it takes to complete any one of them. Larry's kind translation, of what I'm sure were much stronger remarks by Godel, about "the kinds of things that would be de-emphasized would be specific system projects which would not contribute in a major way towards short term accomplishments" indicate an attitude, which, if widely held in the Pentagon, presages more failures, more crises, etc. In other words, here we go again for the short-term flashy project; and, as is noted in a sentence or two later, "the accomplishments would be intended almost exclusively for political gain." They also fail to appreciate the simple point that those projects that have the most long-term political gain are those which have the most long-term sense, endurance value and growth potential.

GROUP-4

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To: R. W. Buchheim

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Meteors which tend to burn out bright and early in the sky are not nearly as durable as satellites. Consider the hoopla and erroneous information passed out on Project Score, the orbiting Atlas. Non-technical newsmen saw through this pretty fast and wrote accordingly. Was that a gain? Or was it, as some believe, a loss? Clearly, orbiting an Atlas carcass is a good trick, but not when it is oversold and misrepresented -- for "short term political gain."

Now, even if we believe the remarks I delivered above, we very likely cannot say to hell with you guys, you got yourself in this pickle, get yourself out of it. After all, it's our country, our ARPA, etc. We must, I feel, try to identify and then recommend only those projects which, having political pay-off, indeed also have long-term value. A further criterion for advocacy of any such projects might be that we can do them within a short time, say one year.

Perhaps I sound like Cato in the Roman Senate, but I say again, "pick up the reconnaissance satellite recommendation of RM-2012 and run with it." This should be advertised this time around as being a satellite for peaceful purposes, for use in soil mapping, iceberg studies, glacier studies, weather analysis, etc., etc. In the paper on observation satellites which I recently prepared (and which did not get cleared !!&!!\*\*?p8\*\*!!) I listed and described many more civilian uses. One advantage of doing this, and making announcements after success, would be to get a handle on this problem of taking photographs from space and at the same time not interfere with what may be other existing programs.

Clearly, I could expand these ideas at considerable length. I don't think it necessary to do so. In summary, I say, the basic situation is deplorable and a lot of baloney, but if we have to help these guys, let's be honest and help them with something worthwhile.

Examination of how the Russians scored their political gains through space might serve to test the merit of our proposals at the same time. It seems clear that the Russian political gains from their space effort were not derived from flashy projects of short-term utility. Starting with Sputnik I and continuing on, they have mounted a serious, consistent, expanding, important program of difficult projects carried out in a competent manner. Anyone who believes that the counter to this program of the Russians, or even that part of the Russian program now on exhibit to us, is a simple-minded, flashy, short-term space effort is simply mis-reading the tea leaves and doesn't know the name of the game we're playing. To say it again, I think part of the reason questions like Godel's are possible at this time is because of a complete misconception of the problems facing us in the past.

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On photography from space: it just might be that we're better photographers than the Soviet. It just might be that we could recover pictures before they could. It just might be that here is a "first" still available. Mерт's moon paper discussed an important "first" which may or may not be still available. Good photography of the earth from space would be dramatic, easily understood and easily communicated. It would have long-term value, and would spur other programs which are limping along, on only hundreds of millions per year. Let's do it!!!

*Amrom*Amrom H. Katz  
Electronics Department

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